

**SRI VENKATESWARA UNIVERSITY : : TIRUPATI**  
**ZOOLOGY SYLLABUS FOR I SEMESTER**  
**ZOOLOGY –PAPER-I (THEORY)**  
**ANIMAL DIVERSITY OF INVERTBRATES**

PERIODS- 60

MAX. MARKS -75

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**Unit-I**

- 1.0 Brief History, Significance of Diversity Of Invertebrates
- 1.1 Phylum Protozoa:- General Characters and Outline Classification upto Classes With Examples; Type Study: Elphidium,
- 1.3 Phylum Porifera:- General Characters and Outline Classification Upto Classes with Examples; Type Study: Sycon, Canal System in Sponges.

**Unit-II**

- 2.0 Phylum Coelenterata :- General Characters and outline Classification Upto Classes with Examples; Type Study: Aurelia ,Polymorphism in Coelenterates: Corals and Coral Reef Formation.
- 2.1 Phylum Platyhelminthes :- General Characters and Outline Classification Upto Classes With Examples; Type Study: Fasciola hepatica.
- 2.2 Phylum Nematelminthes :- General Characters and Outline Classification upto Classes with Examples.

**Unit-III**

- 3.0 Phylum Annelida :- General Characters and Outline Classification upto Classes with Examples; Type Study: Leech., Metamerism in Annelida.
- 3.1 Vermiculture : Scope, Significance of Vermiculture Earthworms Sps, Processing of Vermiculture, Vermicompost, Economic Importance of Vermicost.

**Unit-IV**

- 4.0 Phylum Arthropoda:- General Characters and Outline Classification Upto Classes with Examples; Type Study: Macrobrachium rosenbergii (Scampi). Onychophora:- Peripatus-Structure ,Affinities

- 4.1 Phylum Mollusca:- General Characters And Outline Classification Upto Classes With Examples. Pearl Formation in Pelecypoda. Torsion in Gastropoda.

### **Unit-V**

- 5.0 Phylum Echinodermata: General Characters and Outline Classification upto Classes with Examples; Water Vascular System of Star Fish.
- 5.1 Invertebrates Larval Forms: Amphiblastula, Ephyra, Trochophora, Nauplius, Zoa, Mysis, Megalopa, Glochidium , Bipaneria .
- 5.2 Hemichordata: General Characters And Outline Classification Upto Classes with Examples; Balanoglossus: Structure , Affinities & Tornaria Larvae

### **Suggested Readings**

1. Modern Text Book Of Zoology Invertebrates ---- R.L. Kotpal
2. Text Book of Invertebrates- Arumugam et.al.,
3. Economic Zoology- Saras Publication
4. Old Telugu academy

**SRI VENKATESWARA UNIVERSITY :: TIRUPATI**  
**ZOOLOGY MODEL QUESTION PAPER FOR I SEMESTER**  
**ZOOLOGY –PAPER-I (THEORY)**

**ANIMAL DIVERSITY OF INVERTBRATES**

TIME : 3. HOURS

MAX. MARKS -75

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Part-A

(5X5=25)

Answer Any Five Questions, Each Question Carries Five Marks  
Draw Diagrams Wherever Necessary.

- 1 ) Spicules
- 2) Sycon
- 3) Cephalic appendages
- 4) Mysis larva
- 5 ) Pearl Formation
- 6) Scampi.
- 7) Diptera
- 8) Halistemma

**Part-B**

( 5X10=50)

**Answer All questions , Each Question Carries Ten Marks.**  
**Draw Diagrams Wherever Necessary.**

- 9 (a) Describe the life history of Elphidium  
or  
(b) Give an account of the structure& functions of various cells in sponges
- 10 (a) Give an account of Development in Aurelia.  
Or  
(b) Describe the Reproductive system in liver fluke.
- 11 (a) Write an essay on process of vermiculture.  
Or  
(b) Describe the external characters of leech.
- 12 (a) Give on account on the Structure & Affinities of Peripatus.  
Or  
(b) Explain the Torsion in Gastropoda.

- 13 (a) Describe the Water Vascular System in Star Fish.  
Or  
(b) Write about the affinities of Balanoglossus.
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**SRI VENKATESWARA UNIVERSITY : : TIRUPATI**  
**ZOOLOGY PRACTICAL SYLLABUS FOR I SEMESTER**  
**ZOOLOGY –PAPER-I (THEORY)**

**ANIMAL DIVERSITY OF INVERTBRATES**

PERIODS- 30

MAX. MARKS -50

**Animal Diversity of Invertebrates**

**Observation of the following slides/specimens/models**

**Protozoa:** Elphidium, paramecium –Binary fission, Conjugation.

**Porifera:** Spongilla, Euspongia, Sycon, Sycon-L.S, T.S.

**Coelenterata:** Obelia colony, Medusa, Physalia, Velella, Corallium,  
Gorgonia, Aurelia, Pennatula.

**Platyhelminthes:** Planaria, Fasciola hepatica larval stages of  
Meracidum, Redia, Cercaria, Echinococcus granulosus.

**Nematehelminthes:** Ascaris Male & Female, Ancylostoma duodenale.

**Annelida:** Neries, Heteroneries, Aphrodite, Hirudo, Trochophore larva.

**Arthropoda:** Nauplius, Mysis, Zoea Larvae, Anopheles, culex, mouth  
parts (Male & Female). house fly mouth parts. Scorpion,  
Crab, Prawn, scolopendra, Sacculina, Limulus, Paripatus.

**Mollusca:** Chiton, Murex, Sepia, Loligo, Octopus, Nautilus, Glochidium  
Larva.

**Echinodermata:** Ophiothrix, Echinus, Clypeaster, Cucumaria, Antedon,  
Asterias, Bipinnaria larva.

**Hemichordata :** Balanoglossus, Tornaria larva.

**Demonstration of dissection/dissected / Virtual Dissections:** Leech /  
Prawn/Scorpion/Crab Digestive system, Prawn Appendages  
, Prawn/Scorpion/Crab Nervous System, Pila/Unio Digestive System,  
Mounting of statocyst Mounting of Radula.

- Compulsory one species to be adopted for demonstration only by the faculty.

- Computer Aided Techniques as per U.G.C Guidelines.

Laboratory record work shall be submitted at the time of Practical Examination, Each practical batch should not have more than 20 students.

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MAX. MARKS -50

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I) Draw a Labeled diagram of virtual dissection/dissected animals  
of ----- 1X10 = 10M

II) Identification of six spotters/models/photographs, draw a labeled neat  
diagram with salient features. 6 x 5 = 30 M

\*One from Protozoa, Porifera, one from Cnidaria, Helmenthis, two from  
Annelida, Arthropoda two from Mollusca, Echinodermata, Hemichordate.

III) Certified Record 10 M

Without Practical record –Student is not admitted for University exam

Spotters

Identification	}	1 M
Classification		
Labeled Diagram		-2 M
Comments		– 2 M